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<120> Plants having modified growth characteristics and method for making the same

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<150> EP 03077811.2
<151> 2003-09-05

<160> 21

<170> PatentIn version 3.3

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35 40 45

Leu Arg Glu Ile Ser Leu Leu Gln Met Leu Ser Thr Ser Ile Tyr Val
50 55 60

Val Arg Leu Leu Cys Val Glu His Val His Gln Pro Ser Thr Lys Ser
65 70 75 80

Gln Ser Thr Lys Ser Asn Leu Tyr Leu Val Phe Glu Tyr Leu Asp Thr
85 90 95

Asp Leu Lys Lys Phe Ile Asp Ser Tyr Arg Lys Gly Pro Asn Pro Lys
100 105 110

Pro Leu Glu Pro Phe Leu Ile Gln Lys Leu Met Phe Gln Leu Cys Lys
115 120 125

Gly Val Ala His Cys His Ser His Gly Val Leu His Arg Asp Leu Lys
130 135 140

Pro Gln Asn Leu Leu Leu Val Lys Asp Lys Glu Leu Leu Lys Ile Ala
145 150 155 160

Asp Leu Gly Leu Gly Arg Ala Phe Thr Val Pro Leu Lys Ser Tyr Thr
165 170 175

His Glu Ile Val Thr Leu Trp Tyr Arg Ala Pro Glu Val Leu Leu Gly
180 185 190

Ser Thr His Tyr Ser Thr Gly Val Asp Met Trp Ser Val Gly Cys Ile
195 200 205

Phe Ala Glu Met Val Arg Arg Gln Ala Leu Phe Pro Gly Asp Ser Glu
210 215 220

Phe Gln Gln Leu Leu His Ile Phe Arg Leu Leu Gly Thr Pro Thr Glu
225 230 235 240

Gln Gln Trp Pro Gly Val Ser Thr Leu Arg Asp Trp His Val Tyr Pro
245 250 255

Lys Trp Glu Pro Gln Asp Leu Thr Leu Ala Val Pro Ser Leu Ser Pro
260 265 270

Gln Gly Val Asp Leu Leu Thr Lys Met Leu Lys Tyr Asn Pro Ala Glu
275 280 285

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Asp Lys Ser Gln Phe
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35 40 45

Leu Arg Glu Ile Ser Leu Leu Gln Met Leu Ser Gln Ser Ile Tyr Ile
50 55 60

Val Arg Leu Leu Cys Val Glu His Val Ile Gln Ser Lys Asp Ser Thr
65 70 75 80

Val Ser His Ser Pro Lys Ser Asn Leu Tyr Leu Val Phe Glu Tyr Leu
85 90 95

Asp Thr Asp Leu Lys Lys Phe Ile Asp Ser His Arg Lys Gly Ser Asn
100 105 110

Pro Arg Pro Leu Glu Ala Ser Leu Val Gln Arg Phe Met Phe Gln Leu
115 120 125

Phe Lys Gly Val Ala His Cys His Ser His Gly Val Leu His Arg Asp
130 135 140

Leu Lys Pro Gln Asn Leu Leu Leu Asp Lys Asp Lys Gly Ile Leu Lys
145 150 155 160

Ile Ala Asp Leu Gly Leu Ser Arg Ala Phe Thr Val Pro Leu Lys Ala
165 170 175

Tyr Thr His Glu Ile Val Thr Leu Trp Tyr Arg Ala Pro Glu Val Leu
180 185 190

Leu Gly Ser Thr His Tyr Ser Thr Ala Val Asp Ile Trp Ser Val Gly
195 200 205

Cys Ile Phe Ala Glu Met Ile Arg Arg Gln Ala Leu Phe Pro Gly Asp
210 215 220

Ser Glu Phe Gln Gln Leu Leu His Ile Phe Arg Leu Leu Gly Thr Pro

225 230 235 240

Thr Glu Gln Gln Trp Pro Gly Val Met Ala Leu Arg Asp Trp His Val
245 250 255

Tyr Pro Lys Trp Glu Pro Gln Asp Leu Ser Arg Ala Val Pro Ser Leu
260 265 270

Ser Pro Glu Gly Ile Asp Leu Leu Thr Gln Met Leu Lys Tyr Asn Pro
275 280 285

Ala Glu Arg Ile Ser Ala Lys Ala Ala Leu Asp His Pro Tyr Phe Asp
290 295 300

Ser Leu Asp Lys Ser Gln Phe
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20 25 30

Ala Arg Glu Lys Ala Thr Gly Met Ile Val Ala Leu Lys Lys Thr Arg
35 40 45

Leu His Glu Asp Glu Glu Gly Val Pro Pro Thr Thr Leu Arg Glu Ile
50 55 60

Ser Ile Leu Arg Met Leu Ala Arg Asp Pro His Ile Val Arg Leu Met

65 70 75 80

Asp Val Lys Gln Gly Ile Asn Lys Glu Gly Lys Thr Val Leu Tyr Leu
85 90 95

Val Phe Glu Tyr Val Asp Thr Asp Leu Lys Lys Phe Ile Arg Ser Phe
100 105 110

Arg Gln Ala Gly Gln Asn Ile Pro Gln Asn Thr Val Lys Cys Leu Met
115 120 125

Tyr Gln Leu Cys Lys Gly Met Ala Phe Cys His Gly His Gly Val Leu
130 135 140

His Arg Asp Leu Lys Pro His Asn Leu Leu Met Asp Arg Lys Thr Met
145 150 155 160

Thr Leu Lys Ile Ala Asp Leu Gly Leu Ala Arg Ala Phe Thr Leu Pro
165 170 175

Met Lys Lys Tyr Thr His Glu Ile Leu Thr Leu Trp Tyr Arg Ala Pro
180 185 190

Glu Val Leu Leu Gly Ala Thr His Tyr Ser Thr Gly Val Asp Met Trp
195 200 205

Ser Val Gly Cys Ile Phe Ala Glu Leu Val Thr Lys Gln Ala Ile Phe
210 215 220

Ala Gly Asp Ser Glu Leu Gln Gln Leu Leu Arg Ile Phe Arg Leu Leu
225 230 235 240

Gly Thr Pro Asn Glu Glu Val Trp Pro Gly Val Ser Lys Leu Lys Asp
245 250 255

Trp His Glu Tyr Pro Gln Trp Lys Pro Leu Ser Leu Ser Thr Ala Val
260 265 270

Pro Asn Leu Asp Glu Ala Gly Leu Asp Leu Leu Ser Lys Met Leu Glu
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Tyr Glu Pro Ala Lys Arg Ile Ser Ala Lys Lys Ala Met Glu His Pro
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Tyr Phe Asp Asp Leu Pro Asp Lys Ser Ser Leu
305 310 315

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<212> PRT
<213> Oryza sativa

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Lys Lys Ile Arg Leu Glu Gln Glu Asp Glu Gly Val Pro Ser Thr Ala
35 40 45

Ile Arg Glu Ile Ser Leu Leu Lys Glu Met His His Gly Asn Ile Val
50 55 60

Arg Leu His Asp Val Ile His Ser Glu Lys Arg Ile Tyr Leu Val Phe
65 70 75 80

Glu Tyr Leu Asp Leu Asp Leu Lys Lys Phe Met Asp Ser Cys Pro Glu
85 90 95

Phe Ala Lys Asn Pro Thr Leu Ile Lys Ser Tyr Leu Tyr Gln Ile Leu
100 105 110

Arg Gly Val Ala Tyr Cys His Ser His Arg Val Leu His Arg Asp Leu
115 120 125

Lys Pro Gln Asn Leu Leu Ile Asp Arg Arg Thr Asn Ala Leu Lys Leu
130 135 140

Ala Asp Phe Gly Leu Ala Arg Ala Phe Gly Ile Pro Val Arg Thr Phe
145 150 155 160

Thr His Glu Val Val Thr Leu Trp Tyr Arg Ala Pro Glu Ile Leu Leu
165 170 175

Gly Ser Arg Gln Tyr Ser Thr Pro Val Asp Met Trp Ser Val Gly Cys
180 185 190

Ile Phe Ala Glu Met Val Asn Gln Lys Pro Leu Phe Pro Gly Asp Ser
195 200 205

Glu Ile Asp Glu Leu Phe Lys Ile Phe Arg Val Leu Gly Thr Pro Asn
210 215 220

Glu Gln Ser Trp Pro Gly Val Ser Ser Leu Pro Asp Tyr Lys Ser Ala
225 230 235 240

Phe Pro Lys Trp Gln Ala Gln Asp Leu Ala Thr Ile Val Pro Thr Leu
245 250 255

Asp Pro Ala Gly Leu Asp Leu Leu Ser Lys Met Leu Arg Tyr Glu Pro
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Asn Lys Arg Ile Thr Ala Arg Gln Ala Leu Glu His Glu Tyr Phe Lys
275 280 285

Asp Leu Glu Met Val Gln
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<211> 294
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<213> Oryza sativa

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Lys Lys Ile Arg Leu Glu Gln Glu Asp Glu Gly Val Pro Ser Thr Ala
35 40 45

Ile Arg Glu Ile Ser Leu Leu Lys Glu Met His His Gly Asn Ile Val
50 55 60

Arg Leu His Asp Val Ile His Ser Glu Lys Arg Ile Tyr Leu Asp Phe
65 70 75 80

Glu Tyr Leu Asp Leu Asp Leu Lys Lys Phe Met Asp Ser Cys Pro Glu
85 90 95

Phe Ala Lys Asn Pro Thr Leu Ile Lys Ser Tyr Leu Tyr Gln Ile Leu
100 105 110

Arg Gly Val Ala Tyr Cys His Ser His Arg Val Leu His Arg Asp Leu
115 120 125

Lys Pro Gln Asn Leu Leu Ile Asp Arg Arg Thr Asn Ala Leu Lys Leu
130 135 140

Ala Asp Phe Gly Leu Ala Arg Thr Phe Gly Ile Pro Val Arg Thr Phe
145 150 155 160

Thr His Glu Val Val Thr Leu Trp Tyr Arg Ala Pro Glu Ile Leu Leu
165 170 175

Gly Ser Arg Gln Tyr Ser Thr Pro Val Asp Met Trp Ser Val Gly Cys
180 185 190

Ile Phe Ala Glu Met Val Asn Gln Lys Pro Leu Phe Pro Gly Asp Ser
195 200 205

Glu Ile Asp Glu Leu Phe Lys Ile Phe Arg Val Leu Gly Thr Pro Asn
210 215 220

Glu Gln Ser Trp Pro Gly Val Ser Ser Leu Pro Asp Tyr Lys Ser Ala
225 230 235 240

Phe Pro Lys Trp Gln Ala Gln Asp Leu Ala Thr Ile Val Pro Thr Leu
245 250 255

Asp Pro Ala Gly Leu Asp Leu Leu Ser Lys Met Leu Arg Tyr Glu Pro
260 265 270

Asn Lys Arg Ile Thr Ala Arg Gln Ala Leu Glu His Glu Tyr Phe Lys
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Asp Leu Glu Met Val Gln
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Lys Lys Ile Arg Leu Glu Gln Glu Asp Glu Gly Val Pro Ser Thr Ala
35 40 45

Ile Arg Glu Ile Ser Leu Leu Lys Glu Met His His Gly Asn Ile Val
50 55 60

Arg Leu His Asp Val Ile His Ser Glu Lys Arg Ile Tyr Leu Val Phe
65 70 75 80

Glu Tyr Leu Asp Leu Asp Leu Lys Lys Phe Met Asp Ser Cys Pro Glu
85 90 95

Phe Ala Lys Asn Pro Thr Leu Ile Lys Ser Tyr Leu Tyr Gln Ile Leu
100 105 110

Arg Gly Val Ala Tyr Cys His Ser His Arg Val Leu His Arg Asp Leu
115 120 125

Lys Pro Gln Asn Leu Leu Ile Asp Arg Arg Thr Asn Ala Leu Lys Leu
130 135 140

Ala Asp Phe Gly Leu Ala Arg Ala Phe Gly Ile Pro Val Arg Thr Phe
145 150 155 160

Thr His Glu Val Val Thr Leu Trp Tyr Arg Ala Pro Glu Ile Leu Leu

165 170 175

Gly Ser Arg Gln Tyr Ser Thr Pro Val Asp Met Trp Ser Val Gly Cys
180 185 190

Ile Phe Ala Glu Met Val Asn Gln Lys Pro Leu Phe Pro Gly Asp Ser
195 200 205

Glu Ile Asp Glu Leu Phe Lys Ile Phe Arg Val Leu Gly Thr Pro Asn
210 215 220

Glu Gln Ser Trp Pro Gly Val Ser Ser Leu Pro Asp Tyr Lys Ser Ala
225 230 235 240

Phe Pro Lys Trp Gln Ala Gln Asp Leu Ala Thr Ile Val Pro Thr Leu
245 250 255

Asp Pro Ala Gly Leu Asp Leu Leu Ser Lys Met Leu Arg Tyr Glu Pro
260 265 270

Asn Lys Arg Ile Thr Ala Arg Gln Ala Leu Glu His Glu Tyr Phe Lys
275 280 285

Asp Leu Glu Met Val Gln
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Lys Lys Ile Arg Leu Glu Gln Glu Asp Glu Gly Val Pro Ser Thr Ala
35 40 45

Ile Arg Glu Ile Ser Leu Leu Lys Glu Met His His Gly Asn Ile Val
50 55 60

Arg Leu His Asp Val Ile His Ser Glu Lys Arg Ile Tyr Leu Val Phe
65 70 75 80

Glu Tyr Leu Asp Leu Asp Leu Lys Lys Phe Met Asp Ser Cys Pro Glu
85 90 95

Phe Ala Lys Asn Pro Thr Leu Ile Lys Ser Tyr Leu Tyr Gln Ile Leu
100 105 110

Arg Gly Val Ala Tyr Cys His Ser His Ser Val Leu His Arg Asp Leu
115 120 125

Lys Pro Gln Asn Leu Leu Ile Asp Arg Arg Thr Asn Ala Leu Glu Leu
130 135 140

Ala Asp Phe Gly Leu Ala Arg Ala Phe Gly Ile Pro Val Arg Thr Phe
145 150 155 160

Thr His Glu Val Val Thr Leu Trp Tyr Arg Ala Pro Glu Ile Leu Leu
165 170 175

Gly Ser Arg Gln Tyr Ser Thr Pro Val Asp Met Trp Ser Val Gly Cys
180 185 190

Ile Phe Ala Glu Met Val Asn Gln Lys Pro Leu Phe Pro Gly Asp Ser
195 200 205

Glu Ile Asp Glu Leu Phe Lys Ile Phe Arg Val Leu Gly Thr Pro Asn
210 215 220

Glu Gln Ser Trp Pro Gly Val Ser Ser Leu Pro Asp Tyr Lys Ser Ala
225 230 235 240

Phe Pro Lys Trp Gln Ala Gln Asp Leu Ala Thr Ile Val Pro Thr Leu
245 250 255

Asp Pro Ala Gly Leu Asp Leu Leu Ser Lys Met Leu Arg Tyr Glu Pro
260 265 270

Asn Lys Arg Ile Thr Ala Arg Gln Ala Leu Glu His Glu Tyr Phe Lys
275 280 285

Asp Leu Glu Met Val Gln
290

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<212> PRT
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20 25 30

Lys Lys Ile Arg Leu Glu Gln Glu Asp Glu Gly Val Pro Ser Thr Ala
35 40 45

Ile Arg Glu Ile Ser Leu Leu Lys Glu Met His His Gly Asn Ile Val
50 55 60

Arg Leu His Asp Val Ile His Ser Glu Lys Arg Ile Tyr Leu Val Phe
65 70 75 80

Glu Tyr Leu Asp Leu Asp Leu Lys Lys Phe Met Asp Ser Cys Pro Glu
85 90 95

Phe Ala Lys Asn Pro Thr Leu Ile Lys Ser Tyr Leu Tyr Gln Ile Leu
100 105 110

Arg Gly Val Ala Tyr Cys His Ser His Arg Val Leu His Arg Asp Leu
115 120 125

Lys Pro Gln Asn Leu Leu Ile Asp Arg Arg Thr Asn Ala Leu Lys Leu
130 135 140

Ala Asp Phe Gly Leu Ala Arg Ala Phe Arg Ile Pro Val Arg Thr Phe
145 150 155 160

Thr His Glu Val Val Thr Leu Trp Tyr Arg Ala Pro Glu Ile Leu Leu
165 170 175

Gly Ser Arg Gln Tyr Ser Thr Pro Val Asp Met Trp Ser Val Gly Cys
180 185 190

Ile Phe Ala Glu Met Val Asn Gln Lys Pro Leu Phe Pro Gly Asp Ser
195 200 205

Glu Ile Asp Glu Leu Phe Lys Ile Phe Arg Val Leu Gly Thr Pro Asn
210 215 220

Glu Gln Ser Trp Pro Gly Val Ser Ser Leu Pro Asp Tyr Lys Ser Ala
225 230 235 240

Phe Pro Lys Trp Gln Ala Gln Asp Leu Ala Thr Ile Val Pro Thr Leu
245 250 255

Asp Pro Ala Gly Leu Asp Leu Leu Ser Lys Met Leu Arg Tyr Glu Pro
260 265 270

Asn Lys Arg Ile Thr Ala Arg Gln Ala Leu Glu His Glu Tyr Phe Lys
275 280 285

Asp Leu Glu Met Val Gln
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Lys Lys Ile Arg Leu Ala Gln Glu Asp Glu Gly Val Pro Ser Thr Ala
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Ile Arg Glu Ile Ser Leu Leu Lys Glu Met His His Gly Asn Ile Val
50 55 60

Arg Leu His Asp Val Ile His Ser Glu Lys Arg Ile Tyr Leu Val Phe
65 70 75 80

Glu Tyr Leu Asp Leu Asp Leu Lys Lys Phe Met Asp Ser Cys Pro Glu
85 90 95

Phe Ala Lys Asn Pro Thr Leu Ile Lys Ser Tyr Leu Tyr Gln Ile Leu

100 105 110

Arg Gly Val Ala Tyr Cys His Ser His Arg Val Leu His Arg Asp Leu
115 120 125

Lys Pro Gln Asn Leu Leu Ile Asp Leu Arg Thr Asn Ala Leu Lys Leu
130 135 140

Ala Asp Phe Gly Leu Ala Arg Ala Phe Gly Ile Pro Val Arg Thr Phe
145 150 155 160

Thr His Glu Val Val Thr Leu Trp Tyr Arg Ala Pro Glu Ile Leu Leu
165 170 175

Gly Ser Arg Gln Tyr Ala Thr Pro Val Asp Met Trp Ser Val Gly Cys
180 185 190

Thr Phe Ala Glu Met Val Asn Gln Lys Pro Leu Phe Pro Gly Asp Ser
195 200 205

Glu Ile Asp Glu Leu Phe Lys Ile Phe Arg Val Leu Gly Thr Pro Asn
210 215 220

Glu Gln Ser Trp Pro Gly Val Ser Ser Leu Pro Asp Tyr Lys Ser Ala
225 230 235 240

Phe Pro Lys Trp Gln Ala Gln Asp Leu Ala Thr Ile Val Pro Thr Leu
245 250 255

Asp Pro Ala Gly Leu Asp Leu Leu Ser Lys Val Leu Arg Tyr Glu Pro
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Asn Lys Arg Ile Thr Ala Gln Gln Ala Leu Glu His Glu Tyr Phe Lys
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Asp Leu Glu Met Val Gln
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